

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-56. (Canceled)

57. (New) A method for establishing a wireless communication at a base station, the method comprising:

detecting an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU);

communicating information related to the detected omnidirectional sounding pulse to an interface;

receiving from the interface a relative location of the WTRU and a notification to establish a wireless communication with the WTRU;

using a selectively operable beamforming antenna to direct a common channel toward the relative location of the WTRU; and

establishing a wireless communication with the WTRU.

58. (New) The method of claim 57 wherein the communicated information related to the detected omnidirectional sounding pulse includes information to facilitate determining the relative location of the WTRU.

59. (New) The method of claim 58 wherein the communicated information related to the detected omnidirectional sounding pulse includes signal strength

information, where the signal strength information indicates that the received signal strength crossed a threshold.

60. (New) The method of claim 57 wherein the communicated information related to the detected omnidirectional sounding pulse includes geolocation information.

61. (New) The method of claim 57 further comprising transmitting a cyclic sweeping beacon channel.

62. (New) The method of claim 57 wherein detecting the omnidirectional sounding pulse includes detecting at least one of a plurality of omnidirectional sounding pulses.

63. (New) The method of claim 62 wherein the plurality of omnidirectional sounding pulses includes a first pulse having a first signal strength and a second pulse having a second signal strength, where the second signal strength is greater than the first signal strength.

64. (New) A method for establishing a wireless communication at a base station, the method comprising:

detecting an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU);

using a selectively operable beamforming antenna to direct a common channel toward a relative location of the WTRU; and

establishing a wireless communication with the WTRU.

65. (New) The method of claim 64 including determining the relative location of the WTRU based on information related to the detected omnidirectional sounding pulse.

66. (New) The method of claim 65 wherein the information related to the detected omnidirectional sounding pulse includes signal strength information, where the signal strength information indicates that the received signal strength crossed a threshold.

67. (New) The method of claim 64 wherein the omnidirectional sounding pulse includes geolocation information.

68. (New) The method of claim 64 further comprising transmitting a cyclic sweeping beacon channel.

69. (New) The method of claim 64 wherein detecting the omnidirectional sounding pulse includes detecting at least one of a plurality of omnidirectional sounding pulses.

70. (New) The method of claim 69 wherein the plurality of omnidirectional sounding pulses includes a first pulse having a first signal strength and a second pulse having a second signal strength, where the second signal strength is greater than the first signal strength.

71. (New) A base station comprising:
a selectively operable beamforming antenna;
the base station configured to detect omnidirectional sounding pulses from wireless transmit/receive units (WTRUs);

the base station configured to communicate information related to a detected omnidirectional sounding pulse from a WTRU to an interface;

the base station configured to receive from the interface a relative location of the WTRU and a notification to establish a wireless communication with the WTRU;; and

the base station configured to begin a wireless communication with the WTRU in response to receiving a relative location of the WTRU and a notification to establish a wireless communication with the WTRU by selectively operating the beamforming antenna to direct a common channel toward the relative location of the WTRU.

72. (New) The base station of claim 71 configured to communicate information related to a detected omnidirectional sounding pulse from a WTRU to the interface to facilitate the interface in determining the relative location of the WTRU.

73. (New) The base station of claim 72 configured to communicate information related to a detected omnidirectional sounding pulse from a WTRU including signal strength information, where the signal strength information indicates that the detected omnidirectional sounding pulse signal strength crossed a threshold.

74. (New) The base station of claim 71 configured to detect omnidirectional sounding pulses from wireless transmit/receive units (WTRUs) that include geolocation information.

75. (New) The base station of claim 71 wherein the selectively operable beamforming antenna is configured to transmit a cyclic sweeping beacon channel.

76. (New) A base station comprising:
a selectively operable beamforming antenna;

the base station configured to detect omnidirectional sounding pulses from wireless transmit/receive units (WTRUs); and

the base station configured to begin a wireless communication with the WTRU in response to detecting an omnidirectional sounding pulse from a WTRU by selectively operating the beamforming antenna to direct a common channel toward a relative location of the WTRU.

77. (New) The base station of claim 76 configured to direct a common channel toward a relative location of the WTRU where the relative location of the WTRU is determined from information related to the detected omnidirectional sounding pulse.

78. (New) The base station of claim 77 configured to determine the relative location of the WTRU from signal strength information, where the signal strength information indicates that the detected omnidirectional sounding pulse signal strength crossed a threshold.

79. (New) The base station of claim 76 configured to detect omnidirectional sounding pulses from wireless transmit/receive units (WTRUs) that include geolocation information.

80. (New) The base station of claim 76 wherein the selectively operable beamforming antenna is configured to transmit a cyclic sweeping beacon channel

81. (New) The base station of claim 76 configured to detect a plurality of omnidirectional sounding pulses from a WTRU and to begin a wireless communication with the WTRU in response to detecting an omnidirectional sounding pulse from the WTRU that has a signal strength greater than a threshold.

82. (New) A wireless transmit/receive unit (WTRU) comprising:
an antenna configured to transmit an omnidirectional sounding pulse to
establish a wireless communication with a base station;
the WTRU configured to receive a directional common channel from the base
station; and
the WTRU configured to begin the wireless communication with the base
station.

83. (New) The WTRU of claim 82 configured to include signal strength
information in the omnidirectional sounding pulse.

84. (New) The WTRU of claim 82 configured to include location information in
the omnidirectional sounding pulse.

85. (New) The WTRU of claim 82 further comprising:
a global positioning system (GPS) device configured to determine location
information.

86. (New) The WTRU of claim 82 wherein the antenna is an isotropic antenna
configured to transmit equally in all directions.

87. (New) The WTRU of claim 82 wherein the antenna is a selectively
operable beamforming antenna configured to transmit directional beams and
omnidirectional sounding pulses comprising a plurality of directional sounding pulses.

88. (New) The WTRU of claim 82 wherein the antenna is configured to
transmit a series of omnidirectional sounding pulses to establish a new wireless

communication where each pulse is transmitted at a greater signal power than a previous pulse.